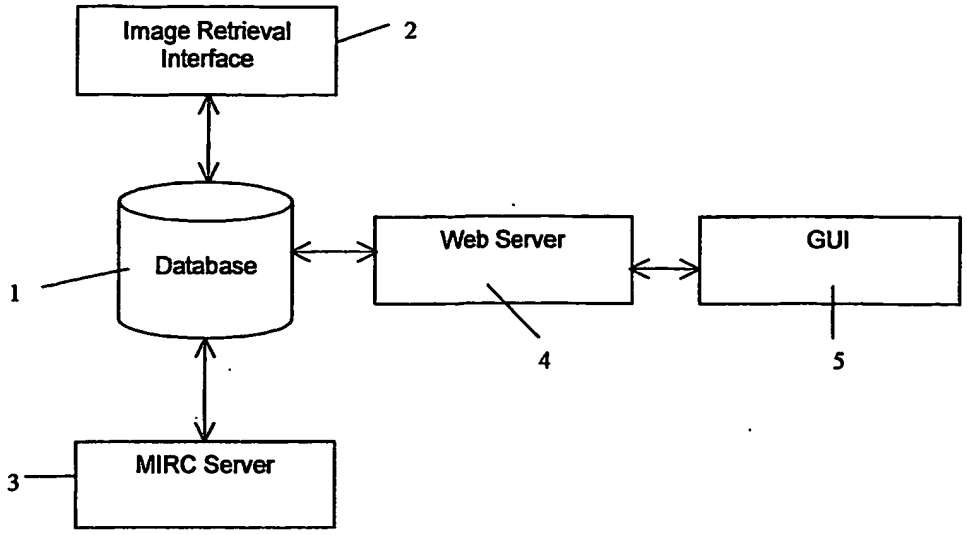
Image Retrieval Interface
2
Database
1
Web Server
4
GUI
5
MIRC Server
3

Figure 1

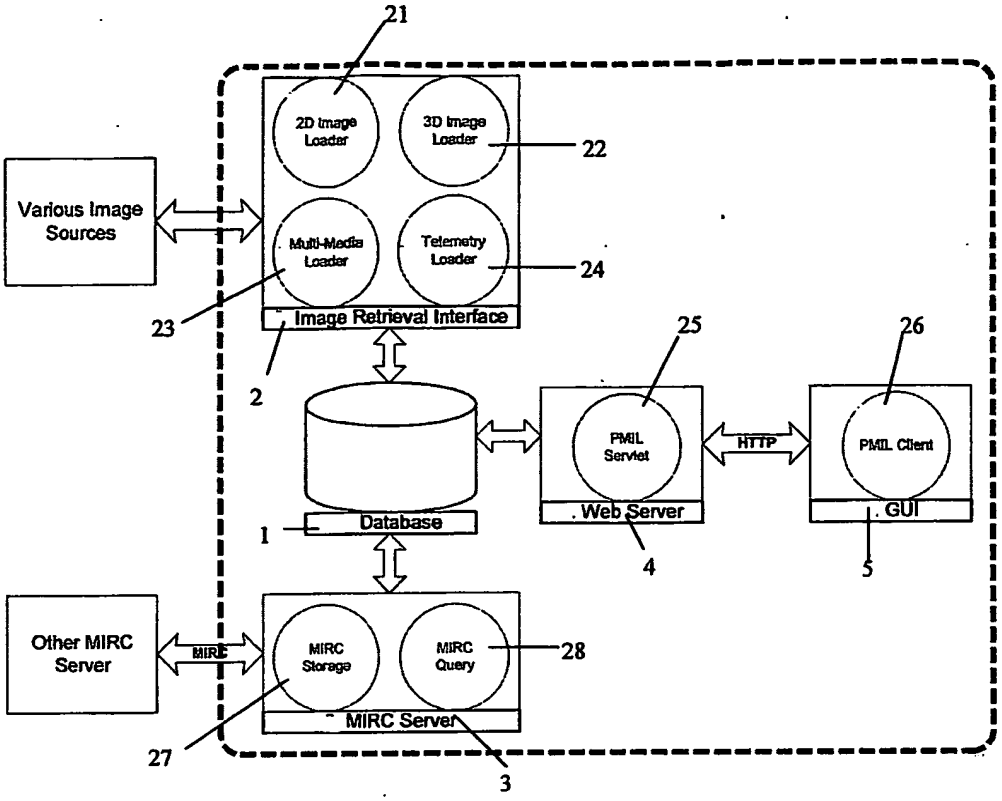
21
2D Image Loader
3D Image Loader
22
Various Image Sources
Multi-Media Loader
Telemetry Loader
24
23
Image Retrieval Interface
25
26
2
PMIL Servlet
HTTP
PMIL Client
Database
. Web Server
. GUI
1
4
5
Other MIRC Server
MIRE
MIRC Storage
MIRC Query
28
MIRC Server
27
3

Figure 2

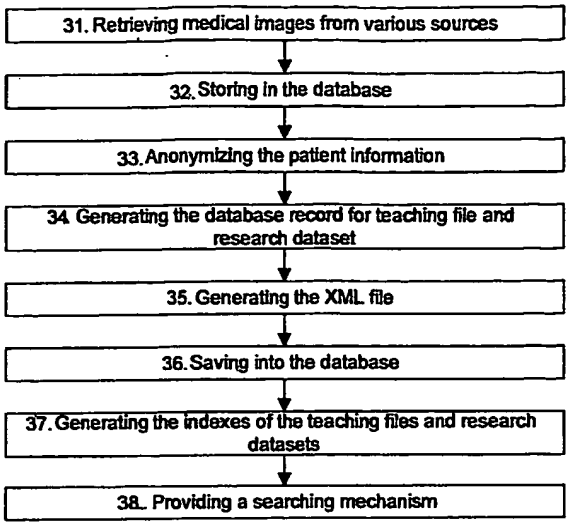
31. Retrieving medical images from various sources
32. Storing in the database
33. Anonymizing the patient information
34. Generating the database record for teaching file and research dataset
35. Generating the XML file
36. Saving into the database
37. Generating the indexes of the teaching files and research datasets
38. Providing a searching mechanism

Figure 3

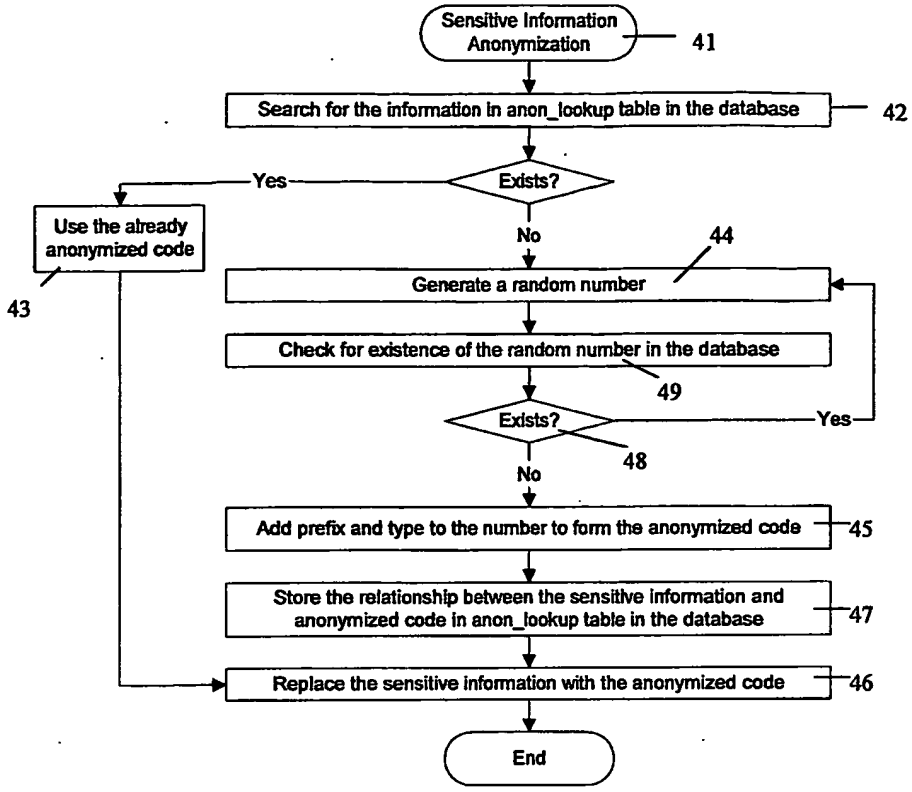
Sensitive Information Anonymization
41
Search for the information in anon_lookup table in the database
42
Exists?
Yes
Use the already anonymized code
43
No
44
Generate a random number
Check for existence of the random number in the database
49
Exists?
Yes
48
No
Add prefix and type to the number to form the anonymized code
45
Store the relationship between the sensitive information and anonymized code in anon_lookup table in the database
47
Replace the sensitive information with the anonymized code
46
End

Figure 4

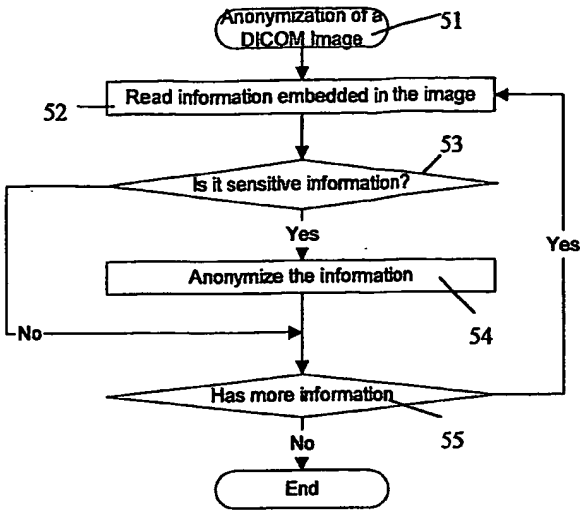
Anonymization of a DICOM Image
51
Read information embedded in the image
52
53
Is it sensitive information?
Yes
Anonymize the information
54
No
Has more information
55
Yes
No
End

Figure 5

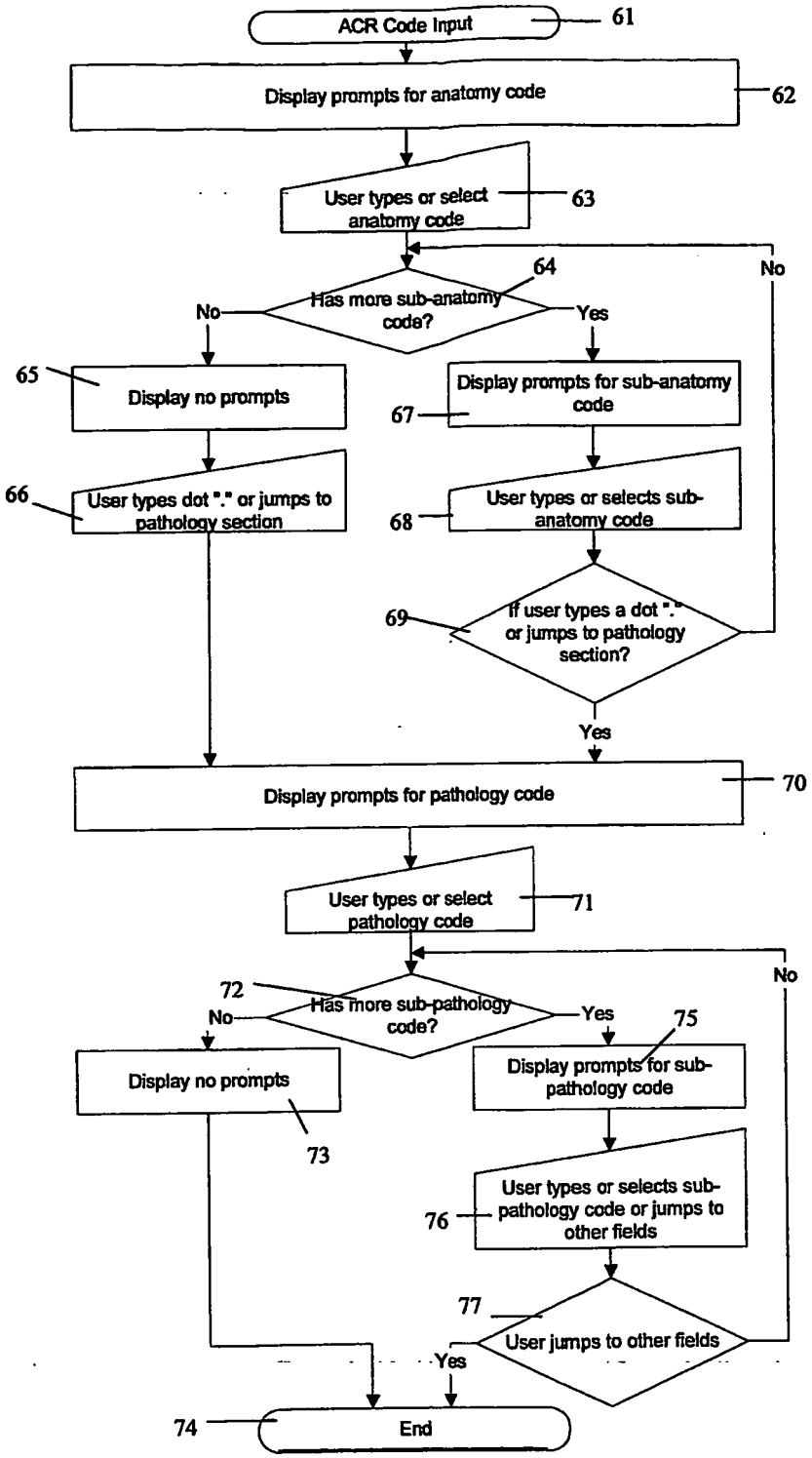
ACR Code Input
61
Display prompts for anatomy code
62
User types or select anatomy code
63
Has more sub-anatomy code?
64
No
Yes
No
65
Display no prompts
Display prompts for sub-anatomy code
67
66
User types dot "." or jumps to pathology section
User types or selects sub-anatomy code
68
If user types a dot "." or jumps to pathology section?
69
Yes
Display prompts for pathology code
70
User types or select pathology code
71
No
72
Has more sub-pathology code?
No
Yes
75
Display no prompts
73
Display prompts for sub-pathology code
User types or selects sub-pathology code or jumps to other fields
76
77
User jumps to other fields
Yes
74
End

Figure 6